

crolepis, Blkr. (g. *PTERELEOTRIS*), and perhaps still others. These various genera are distinguished by the form of the body, length of the fins, the form of the caudal, that of the head, the dentition, extent of branchial apertures, number, &c., of brauchiostegal rays and size of scales.

DORMITATOR LINEATUS Gill.

Dormitator somnulentus Gill, Catalogue of the Fishes of the Eastern coast of North America, p. 44.

Not *Dormitator somnulentus* Gill, ex. *Gd.*

The height euters about $4\frac{1}{4}$ times in the total length; the head about $4\frac{1}{4}$ times; the diameter of the eye about equals the snout and two-thirds of the head's length. The caudal forms a fourth of the length; the pectoral equals a fifth; the ventral does not extend to the anus, and is rather shorter than the pectoral.

D. VII. I. 10. A. I. 10. P. 14.

There were, apparently, thirty-one or two oblique rows of scales, and nine longitudinal ones between the origin of the second dorsal and the anal.

The color is brownish-yellow, thickly punctulated with darker, with a dark line running along the middle of each row of scales, and with a dark vertical blotch on the scapular region. The head had, apparently, two dark longitudinal bands. The dorsal and anal fins have two rows of darker spots on the basal half, and a fainter one beyond; they are also like the other fins, punctulated with minute darker dots.

A single specimen, about three inches long, is in the collection of the Smithsonian Institution, and was sent from Savannah, Georgia. It was referred to as *Dormitator somnulentus* in the "Catalogue of the Fishes of the Eastern coast," but it differs from that species in color, as well as slightly in proportions.

On the genus *PERIOPHTHALMUS* of Schneider.

BY THEODORE GILL.

In examining the different species of the genera *Periophthalmus* and *Boleophthalmus*, attention was arrested by the very trenchant differences existing between the *Periophthalmus Kœlreuteri* and *P. Schlosseri*, which indicated generic distinction. It is therefore proposed to restrict the name *Periophthalmus* to the species having the characters indicated in the following diagnosis, while for the *P. Kœlreuteri* the generic name *Euchoristopus* may be employed. The *Periophthalminæ* may be distributed as follows:

I. Teeth of jaws vertical, D. (IV—XV.) I. 11—12. A. I.

10—12.

α . Scales on head and body well developed and conspicuous. Second dorsal and anal fins nearly equal.

Ventral fins in adult nearly infundibuliform..... *Periophthalmus*.

β . Scales on body and head minute. Anal fin contracted.

Ventral fins always distinct..... *Euchoristopus*.

II. Teeth of the lower jaw horizontal. D. V. I. 24—27. A.

L. 23—25.

α . Scales small but conspicuous..... *Boleophthalmus*

β . Scales very minute, inconspicuous or obsolete in front.

(*Bol. aucupatorius* Rich.)..... *Boleops*.

Genus *PERIOPHTHALMUS* (Bl., Schneid.)

Body much compressed, with the back rectilinear, gradually declining to the caudal fin, to which the rectilinear inferior outline converges still more slowly. Anus submedian.

1863.]

Scales minute, cycloid, regularly imbricated.

Head little longer than high, ascending from the nape to the interorbital region, in front of which the profile is very steep; below plane. Eyes prominent, separated by a narrow furrow. Border of skin above mouth with a triangular flap on each side of the middle. Scales minute, like those of the body.

Mouth moderate, with the periphery semioval, the supramaxillars terminating under the pupils. Lower jaw most advanced. Upper lip very wide, especially at the sides; lower free only near the angles of the mouth.

Teeth erect in both jaws, uniserial, acutely conic; above a large median one in front, and one on each side, between which and the former small teeth like those of the sides intervene; in the lower jaw two large teeth in front, separated by a wide, smooth interval, and on the sides a row of small ones.

Branchial apertures small, in front of the lower half of the arm.

Branchiostegal rays five.

Dorsal fins separated by a short interval; the spinous above the pectoral fin, higher than long, with ten to fifteen slender, divergent spines: the second oblong, and with about twelve rays.

Anal fin short and low, under the middle of the second dorsal, with ten or eleven rays.

Caudal fin behind convex at the upper half, at the lower half very rapidly curved forwards.

Pectoral fins inserted on large free arms narrowed towards their bases, the fin nearly or quite scaleless, with the upper rays rapidly increasing in a curved line to the eighth, and the lower gradually shortened, their ends defining a moderate curve.

Ventral fins thoracic, under the bases of the arms, separated by a narrow, triangular area, which ends between their inner rays in a point; each has a spine and five rays increasing toward the inner, their ends describing a curve.

Type *Periophthalmus Kœlreuteri* Bl., Schn.

Distinguished for the size of the scales, form of the head, dentition, size of branchial apertures, form of anal fin, free arms, and persistent separation of the ventral fins.

Note on the genera of **HEMIRHAMPHINÆ**.

BY THEODORE GILL.

Valenciennes, in the nineteenth volume of the "Histoire Naturelle des Poissons," has especially alluded in many cases to the dentition of the various species of the genus *Hemirhamphus*, describing the teeth as "very short, blunt and conic, or rather granulated," (*H. Brownii* C. et V. lix., p. 16,) finer in some, coarser in others; in the observations on the genus, the following characters are given: "Les deux mâchoires sont garnies d'une bande étroite de petites dents courts, grenus et égales," (C. et V. xix., p. 2.) "Il faut aussi remarquer que les dents restent toujours petites et égales, tandis qu'elles s'allongent, comme on le sait, dans les orphies." Trusting in the correctness of Valenciennes, I formerly proposed a new generic designation for a species of the tribe, with tricuspid teeth, found at the island of Barbados. As subsequent examination of numerous specimens from the West Indies and elsewhere has, however, failed to discover a dentition among the typical *Hemirhamphi* like that described by Valenciennes, I am compelled to believe that he is in some cases, if not in all, incorrect; after the arrival at this conclusion, it is easy to believe that the *Hyporhamphus tricuspidatus* may perhaps be identical with the *Hemirhamphus Richardi* of Valenciennes, the teeth of which are, however, described as being finer and in a wider band than in any other. Again, as the

[Sept.